

**MOSGATED DEVICE WITH ACCUMULATED
CHANNEL REGION AND SCHOTTKY CONTACT**

ABSTRACT OF THE INVENTION

A MOSgated device has spaced vertical trenches lined with a gate oxide and filled with a P type polysilicon gate. The gate oxide extends along a vertical N⁻ channel region disposed between an N⁺ source region and an N⁻ drift region. A Schottky barrier of aluminum is disposed adjacent the accumulation region extending along the trench to collect holes which are otherwise injected into the source region during voltage blocking. A common source or drain contact is connected to the N⁺ region and to the Schottky contact. A two gate embodiment is disclosed in which separately energized gates are connected to alternatively located gate polysilicon volumes.